

SCABIES FACT SHEET: OUTBREAKS IN INSTITUTIONAL SETTINGS

**ALL INFORMATION TAKEN FROM THE CENTERS FOR DISEASE CONTROL WEBSITE*

Scabies outbreaks have occurred among patients, visitors, and staff in institutions, such as long-term care facilities, assisted living facilities and hospitals. Such outbreaks frequently are the result of delayed diagnosis and treatment of crusted (Norwegian) scabies in debilitated, immuno-compromised, institutionalized, or elderly persons. The characteristic itching and rash of scabies can be absent in such persons, which can lead to frequent misdiagnosis and delayed or inadequate treatment and continued transmission. Scabies often is not recognized until it begins to appear among staff and other patients at the institution. The following information was obtained from the [Centers for Disease Control \(CDC\) website](#).

What is scabies?

Scabies is an infestation of the skin by the human itch mite (*Sarcoptes scabiei* var. *hominis*). The microscopic scabies mite burrows into the upper layer of the skin where it lives and lays its eggs. The most common symptoms of scabies are intense itching and a pimple-like skin rash. The scabies mite usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies.

Scabies is found worldwide and affects people of all races and social classes. Scabies can spread rapidly under crowded conditions where close body and skin contact is frequent. Institutions, such as nursing homes, extended-care facilities, and prisons, are often sites of scabies outbreaks. Child care facilities also are a common site of scabies infestations.

What is crusted (Norwegian) scabies?

Crusted scabies is a severe form of scabies that can occur in some persons who are immunocompromised (have a weak immune system), elderly, disabled or debilitated. It also is called Norwegian scabies. Persons with crusted scabies have thick crusts of skin that contain large numbers of scabies mites and eggs. Persons with crusted scabies are very contagious to other persons and can spread the infestation easily both by direct skin-to-skin contact and by contamination of items, such as their clothing, bedding and furniture. Persons with crusted scabies may not show the usually signs and symptoms of scabies, such as the characteristic rash or itching (pruritus). Persons with crusted scabies should receive quick and aggressive medical treatment for their infestation to prevent outbreaks of scabies.

How soon after infestation do symptoms of scabies begin?

If a person has never had scabies before, symptoms may take as long as four to six weeks to begin. It is important to remember that an infested person can spread scabies during this time, even if he/she does not have symptoms yet.

In a person who has had scabies before, symptoms usually appear much sooner (one to four days) after exposure.

What are the signs and symptoms of scabies infestation?

The most common signs and symptoms of scabies are intense itching (pruritus), especially at night, and a pimple-like (papular) itchy rash. The itching and rash may affect much of the body or be limited to common sites, such as the wrist, elbow, armpit, webbing between the fingers, nipple, penis, waist, belt-line and buttocks. The rash also can include tiny blisters (vesicles) and scales. Scratching the rash can cause skin sores; sometimes these sores become infected by bacteria.

Tiny burrows sometimes are seen on the skin; these are caused by the female scabies mite tunneling just beneath the surface of the skin. These burrows appear as tiny raised and crooked (serpiginous) grayish-white or skin-colored lines on the skin surface. Because mites are often few in number (only 10 to 15 mites per person), these burrows may be difficult to find. They are found most often in the webbing between the fingers, in the skin folds on the wrist, elbow, or knee, and on the penis, breast or shoulder blades.

The head, face, neck, palms and soles often are involved in infants and very young children, but usually not adults and older children.

Persons with crusted scabies may not show the usual signs and symptoms of scabies, such as the characteristic rash or itching (pruritus).

How did I get scabies?

Scabies usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies. Contact generally must be prolonged; a quick handshake or hug usually will not spread scabies. Scabies is spread easily to sexual partners and household members. Scabies in adults frequently is sexually acquired. Scabies sometimes is spread indirectly by sharing articles, such as clothing, towels or bedding used by an infested person; however, such indirect spread can occur much more easily when the infested person has crusted scabies.

How is scabies infestation diagnosed?

Diagnosis of a scabies infestation usually is made based on the customary appearance and distribution of the rash and the presence of burrows. Whenever possible, the diagnosis of scabies should be confirmed by identifying the mite, mite eggs or mite fecal matter (scybala). This can be done by carefully removing a mite from the end of its burrow using the tip of a needle or by obtaining skin scraping to examine under a microscope for mites, eggs, or mite fecal matter. It is important to remember that a person can still be infested, even if mites, eggs or fecal matter cannot be found; typically fewer than 10 to 15 mites can be present on the entire body of an infested person who is otherwise healthy. However, persons with crusted scabies can be infested with thousands of mites and should be considered highly contagious.

How long can scabies mites live?

On a person, scabies mites can live for as long as one to two months. Off a person, scabies mites usually do not survive more than 48 to 72 hours. Scabies mites will die if exposed to a temperature of 50°C (122°F) for 10 minutes.

Can scabies be treated?

Yes. Products used to treat scabies are called *scabicides* because they kill scabies mites; some also kill eggs. Scabicides to treat human scabies are available only with a doctor's prescription; no "over-the-counter" (non-prescription) products have been tested and approved for humans.

Always carefully follow the instructions provided by the doctor and pharmacist, as well as those contained in the box or printed on the label. When treating adults and older children, scabicide cream or lotion is applied to all areas of the body from the neck down to the feet and toes; when treating infants and young children, the cream or lotion also is applied to the head and neck. The medication should be left on the body for the recommended time before it is washed off. Clean clothes should be worn after treatment.

In addition to the infested person, treatment also is recommended for household members and sexual contacts, particularly those who have had prolonged skin-to-skin contact with the infested person. All persons should be treated at the same time in order to prevent reinfestation. Retreatment may be necessary if itching continues more than two to four weeks after treatment or if new burrows or rash continue to appear.

Never use a scabicide intended for veterinary or agricultural use to treat humans.

Who should be treated for scabies?

Anyone who is diagnosed with scabies, as well as his or her sexual partners and other contacts who have had prolonged skin-to-skin contact with the infested person, should be treated. Treatment is recommended for members of the same household as the person with scabies, particularly those persons who have had prolonged skin-to-skin contact with the infested person. All persons should be treated at the same time to prevent reinfestation.

Retreatment may be necessary if itching continues more than two to four weeks after treatment or if new burrows or rash continue to appear.

How soon after treatment will I feel better?

If itching continues more than two to four weeks after initial treatment or if new burrows or rash continue to appear (if initial treatment includes more than one application or dose, then the two to four week time period begins after the last application or dose), retreatment with scabicide may be necessary. Seek the advice of a physician.

Prevention

Early detection, treatment, and implementation of appropriate isolation and infection control practices are essential in preventing scabies outbreaks. Institutions should maintain a high index of suspicion that undiagnosed skin rashes and conditions may be scabies, even if characteristic signs or symptoms of scabies are absent (e.g. no itching). New patients and employees should be screened carefully and evaluated for any skin conditions that could be compatible with scabies. The onset of scabies in a staff person who has had scabies before can be an early warning sign of undetected scabies in a patient. Skin scrapings should be obtained and examined carefully by a person who is trained and experienced in identifying scabies mites.

Appropriate isolation and infection control practices (e.g. gloves, gowns, avoidance of direct skin-to-skin contact, etc.) should be used when providing hands-on care to patients who might have scabies. Epidemiologic and clinical information about confirmed and suspected scabies patients should be collected and used for systematic review in order to facilitate early identification of and response to potential outbreaks.

Most recent reports recommend an aggressive approach to preventing and controlling scabies in institutions, particularly when crusted (Norwegian) scabies is confirmed or suspected.

Control

A scabies outbreak suggests that transmission has been occurring within the institution for several weeks to months – thus increasing the likelihood that some infested staff or patients may have had time to spread scabies elsewhere in the community, including to other facilities. Measures to control scabies in an institution depend on factors, such as how many cases are diagnosed or suspected, how long infested persons have been at the institution while undiagnosed and/or unsuccessfully treated, and whether any of the cases are crusted (Norwegian) scabies. Because it is so highly transmissible, crusted scabies requires rapid and aggressive detection, diagnosis, infection control, and treatment measures to prevent and control spread.

The local health department should be notified of any outbreak that may have community implications, including possible spread by patients or staff to other institutions.

Control measures for a single case of non-crusted scabies should consist of heightened surveillance for early detection of new cases, proper use of infection control measures when handling patients (e.g. avoidance of direct skin-to-skin contact, handwashing, etc.), confirmation of the diagnosis of scabies, early and complete treatment and follow-up of cases, and prophylactic treatment of staff, other patients, and household members who had prolonged skin-to-skin contact with suspected and confirmed cases. Skin-to-skin contact with scabies patients should be avoided for at least eight hours after treatment.

Control measures for multiple cases of non-crusted scabies should consist of heightened surveillance for early detection of new cases, proper use of infection control measures when handling patients (e.g. avoidance of direct skin-to-skin contact, handwashing, etc.), confirmation of the diagnosis of scabies, early and complete treatment and follow-up of cases, and prophylactic treatment of staff, other patients, and household members who had prolonged skin-to-skin contact with suspected and confirmed cases. Skin-to-skin contact with scabies patients should be avoided for at least eight hours after treatment. In addition, an institution-wide information program should be implemented to instruct all management, medical, nursing, and support staff about scabies, the scabies mite, and how scabies is and is not spread. Epidemiologic and clinical data should be reviewed to determine the extent of the outbreak and risk factors for spread.

Control measures for an outbreak involving one or more cases of crusted scabies should involve rapid and aggressive detection, diagnosis, infection control and treatment measures because this form of scabies is so highly transmissible. Unrecognized crusted scabies often is the source of institutional outbreaks of scabies. Infection control personnel and dermatologists should be involved as soon as scabies is suspected in an institution. An institution-wide information program should be implemented to instruct all management, medical, nursing, and support staff about scabies, the scabies mite, and how scabies is and is not spread.

Until successfully treated, patients with crusted scabies should be isolated from other patients who do not have crusted scabies. Assigning a cohort of caretakers to care only for patients with crusted scabies can reduce the potential for further transmission. Direct skin-to-skin contact between a patient with crusted scabies and his/her caretakers and visitors should be eliminated by following strict contact precautions, including the use of protective garments, such as gowns, gloves and shoe covers. The patient's room should

be cleaned thoroughly. Bedding and clothing used by a person with scabies should be machine-laundered, using the hot water and hot dryer cycles.

All staff, volunteers and visitors who may have been exposed to a patient with crusted scabies, or to clothing, bedding, or furniture used by such a patient, should be identified and treated. Treatment should be strongly considered, even in equivocal circumstances, because of the complexity of controlling an institutional outbreak and the low risk associated with treatment. All suspected and confirmed cases, as well as all potentially exposed patients, staff, visitors and family members, should be treated at the same time to prevent reexposure. Remember that symptoms of scabies can take weeks to appear the first time a person is infested; however, the person still can spread scabies during this asymptomatic period.

Persons with crusted scabies generally require treatment at least twice, one week apart. Topical treatment with permethrin or oral treatment with ivermectin has been used successfully, although ivermectin currently is not FDA-approved for treatment of scabies.

Long-term surveillance for scabies is imperative to eradicate scabies from an institution. All new patients and staff should be screened and treated for skin conditions suggestive of possible scabies. The local health department and neighboring institutions should be notified of the outbreak, and of any patients who may have been transferred to or of staff who may have worked in other institutions.

Developing Guidelines

Below are suggestions for developing guidelines for preventing, detecting and responding to a single case or multiple cases of non-crusted or crusted (Norwegian) scabies in an institution.

Surveillance

Establish surveillance.

- Have an active program for early detection of infested patients and staff.
- Maintain a high index of suspicion that scabies may be the cause of undiagnosed skin rash; suspected cases should be evaluated and confirmed by obtaining skin scrapings. Note, persons with crusted scabies may not show the characteristic symptoms of scabies such as rash and itching (pruritus).
- Screen all new patients and staff for scabies.
- For multiple cases, notify local health department of outbreak and determine if any evidence of increased scabies in the general community. Notify other institutions to or from which infested or exposed patients may have transferred.
- Maintain ongoing surveillance for scabies among all patients and staff to identify new or unsuccessfully treated cases.

Diagnostic Services

Ensure adequate diagnostic services are available.

- Consult with an experienced dermatologist for assistance in differentiating skin rashes and confirming the diagnosis of scabies.
- Ensure someone on-staff is trained and experienced in obtaining and examining a skin scraping to identify scabies mites.

Control and Treatment

Establish appropriate procedures for infection control and treatment.

- Maintain records with patient name, age, sex, room number, roommate(s) name(s), skin scraping status and result(s), and name(s) of all staff who provided hands-on care to the patient before implementation of infection control measures. Symptoms can take up to two months to appear in exposed persons and staff.
- Avoid direct skin-to-skin contact with any patient who has or is suspected to have scabies.
- Use gloves when giving hands-on care to any patient who is suspected or confirmed to have scabies. Wash hands thoroughly after providing care to any patient.
- Avoid skin-to-skin contact with person with scabies for at least eight hours after application of scabicide treatment
- Identify and treat all persons (e.g. staff, relatives, patients, etc.) having prolonged, direct skin-to-skin contact with an infested person before he/she was treated.

For crusted scabies:

- Remember that persons with crusted scabies are infested with a very large numbers of mites. This increases the risk of transmission both from brief skin-to-skin contact and contact with items, such as bedding, clothing, furniture, rugs, carpeting, floors and other fomites that can become contaminated with skin scales and crusts shed by a person with crusted scabies.
- Use contact precautions with protective garments (e.g. gowns, disposable gloves, shoe covers, etc.) when providing care to any patient with crusted scabies until successfully treated. Wash hands thoroughly after providing care to any patient.
- Isolate patients with crusted scabies from other patients who do not have crusted scabies. Consider assigning a cohort of caretakers to care only for patients with crusted scabies.
- Maintain contact precautions until skin scrapings from a patient with crusted scabies are negative. Persons with crusted scabies generally must be treated at least twice, one week apart. Oral ivermectin may be necessary for successful treatment.
- Limit visitors for patients with crusted scabies. Visitors should use the same contact precautions and protective clothing as staff.
- Identify and treat all patients, staff and visitors who may have been exposed to a patient with crusted scabies or to clothing, bedding, furniture or other items (fomites) used by such a patient. Strongly consider treatment even in equivocal circumstances because controlling an outbreak involving crusted scabies can be very difficult and the risk associated with treatment is relatively low.
- Offer treatment to household members (e.g. spouses, children, etc.) of staff who are receiving scabies treatment. Attempt to treat patients, staff and household members at the same time to prevent reexposure and continued transmission.

Staff generally can return to work the day after receiving a dose of treatment with permethrin or ivermectin; however, symptomatic staff who provide hands-on care to any patient may need to use disposable gloves for several days after treatment until confident they are no longer infested.

- Use procedures that minimize risk of transmission of secondary bacterial infections that may develop with scabies.
- Use epidemiologic data about distribution of confirmed cases by building, room, floor, wing, occupation (for staff), dates of admission, and onset of scabies-like condition to determine: 1) levels of risk for patients and staff; 2) extent of the outbreak (e.g. confined or widespread in the facility; and 3) temporal relationship among cases.

Environmental Disinfection

Establish appropriate procedures for environmental disinfection.

- Machine wash and dry bedding and clothing of scabies patients using the hot water and hot dryer cycles.
- Environmental disinfestation is neither necessary nor warranted. Routine cleaning and vacuuming of the room should be done if and when a patient with non-crusted scabies leaves the facility or moves to a new room.

For crusted scabies:

- Ensure bedding and clothing used by a person with crusted scabies is collected and transported in a plastic bag and emptied directly into washer to avoid contaminating other surfaces and items. Machine wash and dry all items using the hot water and high heat cycles (temperatures in excess of 50°C or 122°F for 10 minutes will kill mites and eggs). Ensure laundry personnel use protective garments and gloves when handling contaminated items.
- Attempt to ensure all persons who receive treatment have the clothing and bedding they used anytime during the three days before treatment machine-washed and dried using the hot water and high heat cycles.
- Clean the room of patients with crusted scabies regularly to remove contaminating skin crusts and scales that can contain many mites.
- Thoroughly clean and vacuum the room when a patient with crusted scabies leaves the facility or moves to a new room.

Communication

- Establish procedures for identifying and notifying at-risk patients and staff who are no longer at the institution.
- Ensure a proactive employee health service approach to scabies, including providing information about scabies to all staff and providing dermatologic consultation for employees, and when appropriate, their household members.
- Maintain an open and cooperative attitude between management and staff.

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